IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	Alan M. Jaffee	Group Art Unit:	1771
Serial No.:	10/607,858	Examiner:	Jennifer A. Boyd
Filed:	June 27, 2003		
For:	**Gypsum Board Faced With Non-Woven Glass Fiber Mat**		
Docket No.:	7304/0140-2		

Bedminster, N.J. 07921
April 26, 2006

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

DECLARATION UNDER 37 CFR 1.132

I, Alan M. Jaffee, hereby declare that:

1. I received Bachelor of Science and Master of Science degrees in Chemical Engineering from the University of Toledo in 1977 and 1985, respectively. I have worked in the chemical industry since 1976. I have been employed by Johns Manville, Inc., Waterville, OH, since 1983, and I am currently a Technical Leader. For the last twenty-three (23) years my duties at Johns Manville have included the research, development, and application of glass fibers and non-woven products made therewith.

2. I am the inventor of the subject matter of the above-identified application Serial No. 10/607,858. I have read the application, and the Office Action dated August 15, 2005, and the Advisory Action dated October 24, 2005 in the application. I have also read the amended claims submitted with applicant's responses dated June 3, 2005 and October 10, 2005.

3. I have read each of US Patent 5,772,846 to Jaffee, US Patent 5,308,692 to Kennedy et al., US Patent 4,637,951 to Gill, and US Patent 6,365,533 to Horner, Jr., et al.,

which were cited in the August 15, 2005 Office Action and the October 24, 2005 Advisory Action.

4. I have read the Product Information sheet for Johns Manville Dura-Glass® 7529 glass fiber mat panel facings dated 02/02.

5. I am familiar with Dura-Glass® 7529 glass fiber mat product.

6. In the course of my duties at Johns Manville, Inc., I participated in the development of the Dura-Glass® 7529 glass fiber mat product, including the specification of the glass fibers incorporated therein.

7. In the course of my duties at Johns Manville, Inc., I had continuing awareness of and responsibility for the Dura-Glass® 7529 glass fiber mat product prior to and including June 27, 2003.

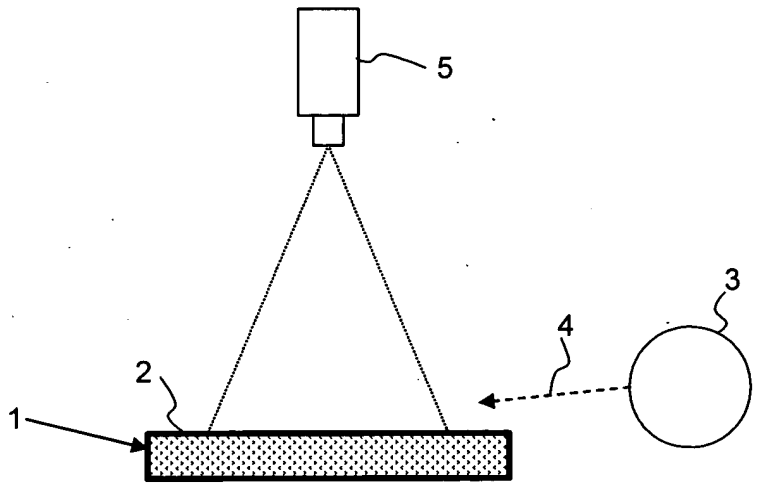
8. The glass fibers incorporated in the Dura-Glass® 7529 glass fiber mat made and sold by Johns Manville prior to and including June 27, 2003 had an average fiber diameter of 10.8 μm and an average fiber length of 3/4 inch (19 mm).

9. The binder used to bind the glass fibers in the Dura-Glass® 7529 glass fiber mat prior to and including June 27, 2003 is a modified urea formaldehyde resin binder.

10. Dura-Glass® 7529 glass fiber mat made prior to and including June 27, 2003 had a thickness of about 0.028 inches, which corresponds to a basis weight of about 1.85 pounds per 100 square feet.

11. I carried out tests of the smoothness of certain gypsum boards having a front facer made with non-woven glass fiber mats using a system schematically depicted by Fig. 1 below.

Fig. 1



12. Smoothness tests were carried out under my supervision as follows. Referring to Fig. 1, a gypsum board sample 1 approximately six inches (6") square and faced with a facer 2 is illuminated by light 4 emanating from fluorescent lamp 3 placed along one edge of board 1. The light is incident onto facer 2 of sample 1 at a low angle of incidence. Camera 5, disposed to view facer 2 in a substantially perpendicular direction is used to acquire a digital image of a portion of the surface of facer 2. The image obtained using camera 5 is captured in a large number of pixels and is transferred to a computer (not shown) for further analysis using conventional commercially available digital image processing software. Each image is analyzed using the software to determine an average of the intensity across all the pixels in the image. Also calculated is a standard deviation of the intensity values from all the pixels. For each image, a standard error is calculated by dividing the standard deviation of intensity by the average intensity.

13. As would be recognized by a person having ordinary skill in the non-woven mat art, surface asperities in a mat would create, in the presence of light incident at a grazing low angle of incidence, shadowing that gives rise to variations in the intensity of

light that is scattered from the mat in a direction perpendicular to the surface, such that the greater the surface roughness, the greater the magnitude of the intensity variations.

The relative smoothness of two gypsum board samples is indicated by the standard error, determined as set forth in paragraphs (11) and (12) above, the lower value of the standard error being indicative of the smoother of the boards.

14. Set forth in the following table are samples of gypsum boards having a non-woven glass fiber mat front facer that were prepared and tested under my supervision. Results of surface roughness tests carried out on these gypsum boards under my supervision and in accordance with the procedure set forth in paragraphs (11)-(14) above are also delineated in the table. Gypsum Board Sample #4 was prepared using a Dura-Glass® 7529 glass fiber mat representative of the mat commercially produced and sold as of June 27, 2003. Samples #1-#3 were prepared using mats produced during a development program in my laboratory and under similar production conditions.

Sample Number	Avg. Fiber Diameter (μm)	Avg. Fiber Length (mm)	Average Intensity (arb. units)	Standard Deviation (arb. units)	Standard Error
1	13	19	1519	145	9.5%
2	11	12	1837	139	7.6%
3	8	9	1837	152	8.3%
4	11	19	1535	143	9.3%

15. In my considered opinion, based on my knowledge and experience, the lower value of standard error set forth in the foregoing table for Gypsum Board Sample #2 is indicative of a surface that is smoother than the surfaces of either Samples #1, #3, or #4.

16. I visually inspected Gypsum Board Samples #1-#4 and regard Sample #2 as having a smoother surface than either Sample #1, #3, or #4. In my considered opinion, based on my knowledge and experience, this visual testing corroborates the results of the quantitative testing set forth in the table hereinabove.

17. In my considered opinion, based on my knowledge and experience, a person having ordinary skill in the non-woven glass fiber mat art on or before June 27, 2003 would regard it as surprising and unexpected that a non-woven mat comprised of glass fiber having an average fiber diameter of 11 μm would produce gypsum board having a higher smoothness than boards made with mats having average fiber diameters of 13 and 8 μm. Instead, such a skilled artisan would have inferred that the smoothest surface would result from fabricating gypsum board with mat having the smallest fiber diameter

18. In my considered opinion, based on my knowledge and experience, a person having ordinary skill in the glass fiber mat art on or before June 27, 2003 would have regarded that glass fiber mat made with fiber having an average fiber length of 6 to 12 mm (1/4 to 1/2 inch) would be highly likely to have lower tensile and tear strengths than mat made of glass fiber having the same average diameter but a fiber length of about 19 mm (3/4 inch).

19. In my considered opinion, based on my knowledge and experience, a person having ordinary skill in the glass fiber mat art on or before June 27, 2003 would have regarded high tensile and tear strengths as being important for the production, transportation, installation, and end use of glass fiber mat-faced gypsum board.

20. In my considered opinion, based on my knowledge and experience, a person having ordinary skill in the glass fiber mat art on or before June 27, 2003 would have regarded high tensile strength of the facer as being an important contributor to the flexural strength of glass fiber mat-faced gypsum board, with high flexural strength in turn being essential for maintaining the integrity of the gypsum board during its transportation and installation.

21. In my considered opinion, based on my knowledge and experience, a person having ordinary skill in the glass fiber mat art on or before June 27, 2003 would have

regarded high tear strength as being important in: (i) maintaining the integrity of glass fiber mat-faced gypsum board during its production; and (ii) assuring continuous operation of an in-line gypsum board production process without tearouts or other failures requiring interruption of the production process.

I hereby declare that the foregoing statements made of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the above-identified application or any patent issuing thereon.

Dated: 4/26/06 By: _____
Alan M. Jaffee

Johns Manville

Glass Fiber Mats

Dura-Glass®

7529 - Panel Facings

Product Information

Dura-Glass mats are relatively thin, bonded, nonwoven, fiber glass mats composed of fiber glass filaments oriented in a random pattern, bonded together with a resinous binder. Dura-Glass 7529 contains sized glass fibers to provide excellent mat strength and flexibility.

Property	Unit	Typical	Test Method
Weight	Lbs./100 Sq. Ft. Grams/Sq. Meter	1.85 90	436-704
Thickness	Mils	28	1436-956
Binder	Modified Urea Formaldehyde Resin		
Binder Content	Percent by Weight	27	436-701
Tensile Strength[1]			
MD	Lbs./3" Width	100 Min.	436-703
CMD	Lbs./3" Width	70 Min.	436-703
Air Permeability	CFM/Sq. Ft.	575	436-910

Packaging

Rolls of mat are wrapped in plastic film with cardboard top and bottom

Mat Width	30-150 Inches (narrower widths available on special order)
Mat Length[2]	10,000 Ft. Max.
Roll Diameter	35-60 Inches (outside)
Core Diameter	8 Inches (3 and 6 inch cores available on special order)

Notes

[1]The average of 10 randomly selected specimens shall meet or exceed audit testing by Johns Manville.
[2]Actual length determined by specified roll diameter

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HPNW - 7529
02/02 (Replaces 7/98)

ISO 9001:2000